

MAR 19 2008
ENGINEERING SERVICES

CBAY CARWASH
PROPOSED SITE PLAN
~~28~~ **2 & 4 ROOSEVELT HIGHWAY**
US ROUTES 2 & 7
COLCHESTER, VERMONT

LIST OF DRAWINGS

- C-1EXISTING CONDITIONS
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- C-7WATER & SEWER DETAILS
- C-8STORMWATER DETAILS
- C-9EROSION CONTROL DETAILS
- C-10.....SPECIFICATIONS

OWNER

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MP 0.00-0.075

Pin # 13R252
Route US7
Date 3/19/2008



DEMOLITION PLAN
 SCALE 1" = 20'
 Graphic Scale
 0 20 40 60 80 feet

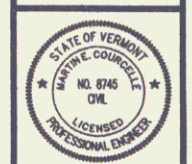
NOTE: ALL WATER LINE AND RELATED WORK TO BE PERFORMED IN ACCORDANCE WITH THE CHAMPLAIN WATER DISTRICT SPECIFICATIONS AND DETAILS FOR THE INSTALLATION OF WATER LINES AND APPURTENANCES.

LEGEND

	UTILITY POLE
	IRON PIPE FOUND
	CONCRETE MONUMENT FOUND
	REBAR FOUND
	IRON PIPE
	MANHOLE
	HYDRANT
	CATCH BASIN
	PROPERTY LINE
	WATER LINE
	SEWER LINE
	OVERHEAD WIRE
	WOODEN FENCE
	CHAIN LINK FENCE
	EXISTING CONTOUR
	STORMWATER LINE
	TREELINE

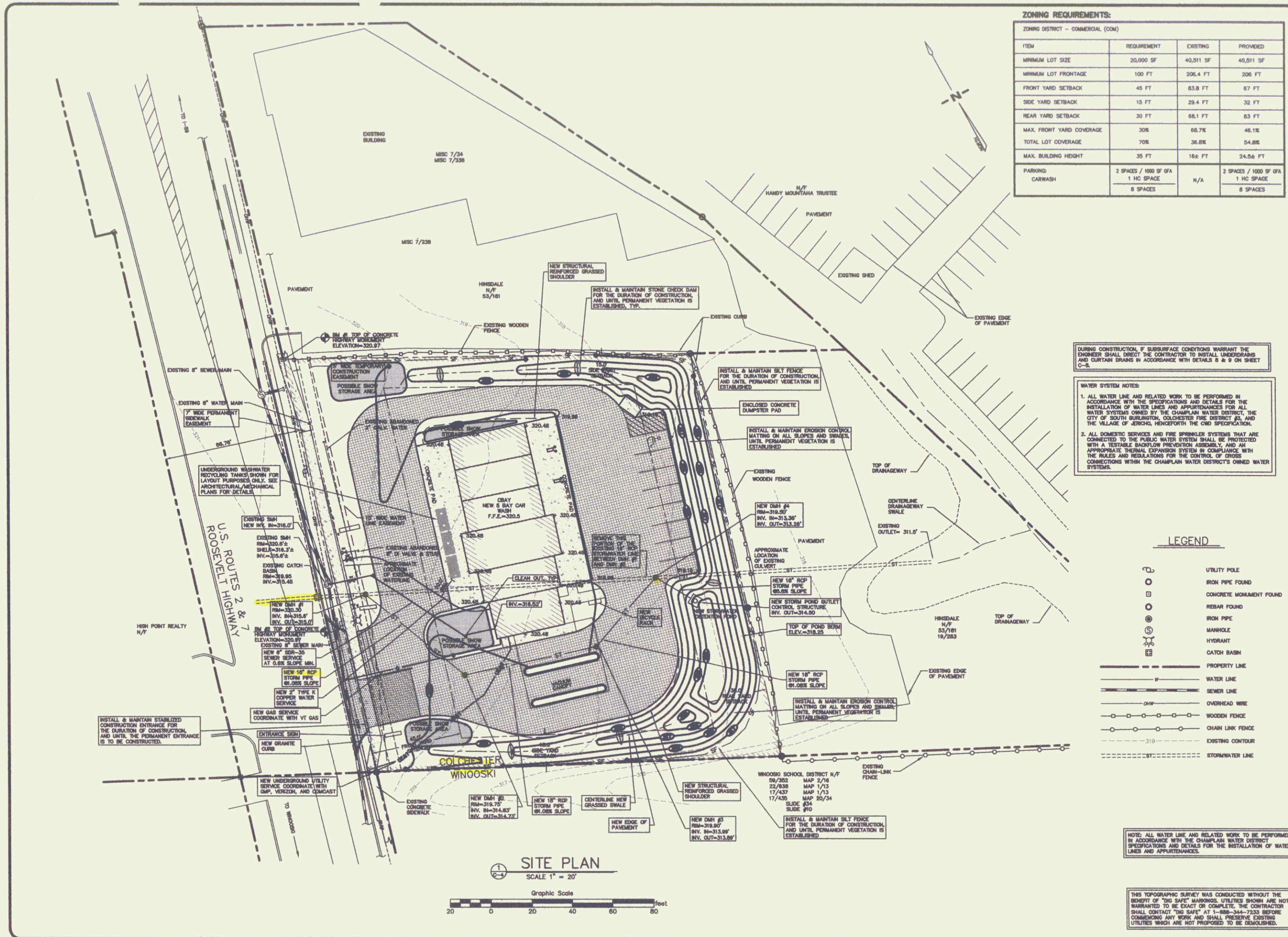
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12/13/08 - TOWN REVISION	MEC
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12/16/08 - MEC REVISION	MEC
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**CBAY CARWASH
 & 4 ROOSEVELT HIGHWAY
 DEMOLITION PLAN**
 COLCHESTER VERMONT

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 CHECKED: MEC
 SCALE: 1"=20'
 DATE: 11/08/07
 JOB NO.: 27141
 SHEET: C-2
 10 SHEETS
 3



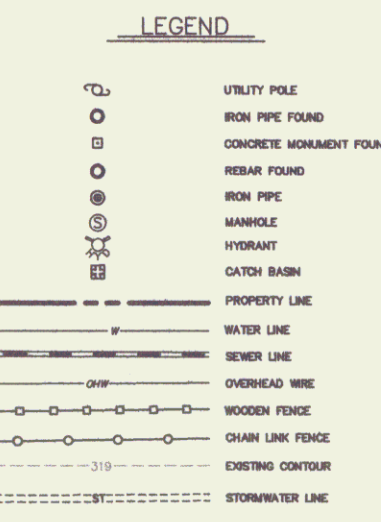
ZONING REQUIREMENTS:
ZONING DISTRICT - COMMERCIAL (COM)

ITEM	REQUIREMENT	EXISTING	PROVIDED
MINIMUM LOT SIZE	20,000 SF	40,511 SF	40,511 SF
MINIMUM LOT FRONTAGE	100 FT	206.4 FT	206 FT
FRONT YARD SETBACK	45 FT	83.8 FT	67 FT
SIDE YARD SETBACK	15 FT	29.4 FT	32 FT
REAR YARD SETBACK	30 FT	68.1 FT	83 FT
MAX. FRONT YARD COVERAGE	30%	66.7%	46.1%
TOTAL LOT COVERAGE	70%	36.8%	54.8%
MAX. BUILDING HEIGHT	35 FT	18.2 FT	24.56 FT
PARKING: CARRIAGEWAY	2 SPACES / 1000 SF GFA 1 HC SPACE 8 SPACES	N/A	2 SPACES / 1000 SF GFA 1 HC SPACE 8 SPACES

DURING CONSTRUCTION, IF SUBSURFACE CONDITIONS WARRANT THE ENGINEER SHALL DIRECT THE CONTRACTOR TO INSTALL UNDERDRAINS AND CURTAIN DRAINS IN ACCORDANCE WITH DETAILS 5 & 9 OR SHEET C-5.

WATER SYSTEM NOTES:

1. ALL WATER LINE AND RELATED WORK TO BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND DETAILS FOR THE INSTALLATION OF WATER LINES AND APPURTENANCES FOR ALL WATER SYSTEMS OWNED BY THE CHAMPLAIN WATER DISTRICT, THE CITY OF SOUTH BURLINGTON, COLCHESTER FIRE DISTRICT, AND THE VILLAGE OF JEROME, HENDSHOTER THE CND SPECIFICATION.
2. ALL DOMESTIC SERVICES AND FIRE SPRINKLER SYSTEMS THAT ARE CONNECTED TO THE PUBLIC WATER SYSTEM SHALL BE PROTECTED WITH A TESTABLE BACKFLOW PREVENTION ASSEMBLY, AND AN APPROPRIATE THERMAL EXPANSION SYSTEM IN COMPLIANCE WITH THE RULES AND REGULATIONS FOR THE CONTROL OF CROSS CONNECTIONS WITHIN THE CHAMPLAIN WATER DISTRICT'S OWNED WATER SYSTEMS.



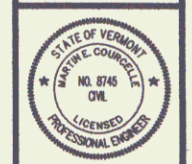
NOTE: ALL WATER LINE AND RELATED WORK TO BE PERFORMED IN ACCORDANCE WITH THE CHAMPLAIN WATER DISTRICT SPECIFICATIONS AND DETAILS FOR THE INSTALLATION OF WATER LINES AND APPURTENANCES.

THIS TOPOGRAPHIC SURVEY WAS CONDUCTED WITHOUT THE BENEFIT OF "TO SAFE" MARKINGS. UTILITIES SHOWN ARE NOT WARRANTED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT "TO SAFE" AT 1-888-344-7333 BEFORE COMMENCING ANY WORK AND SHALL PROTECT EXISTING UTILITIES WHICH ARE NOT PROPOSED TO BE OBLITERATED.

REVISION DATE & DESCRIPTION

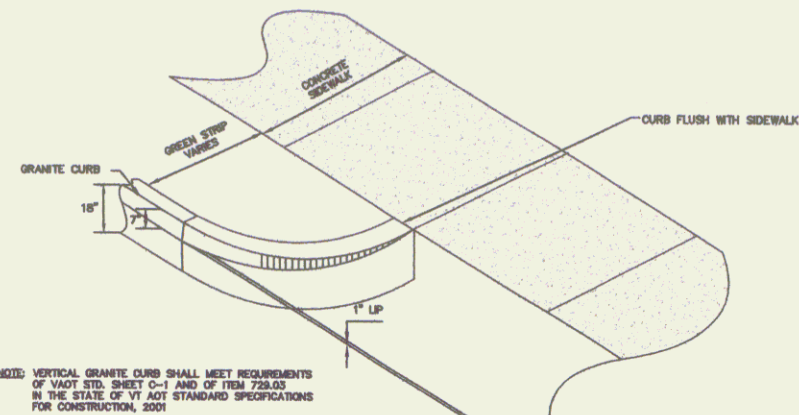
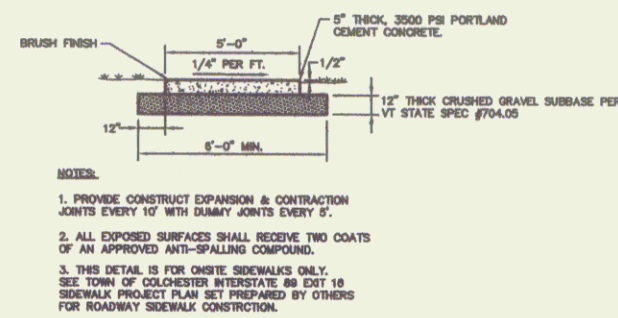
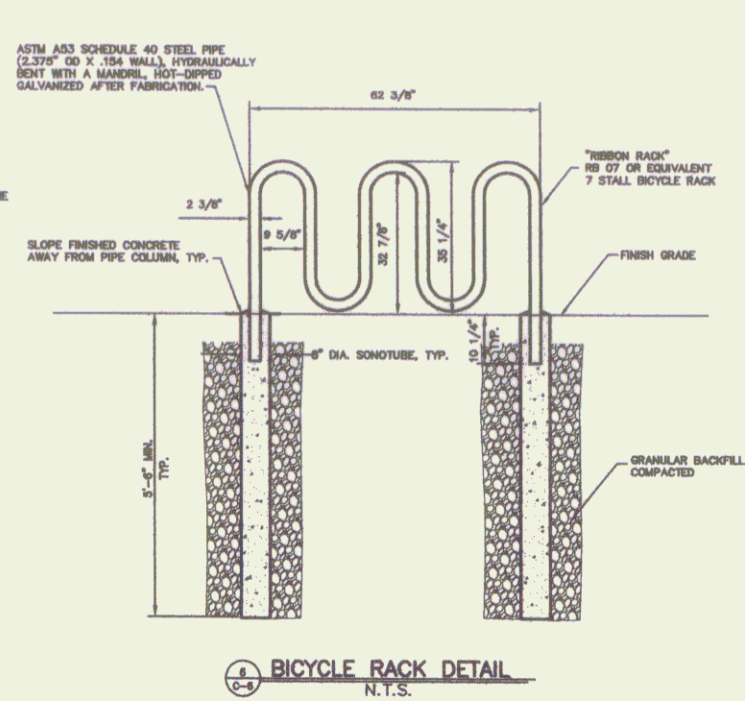
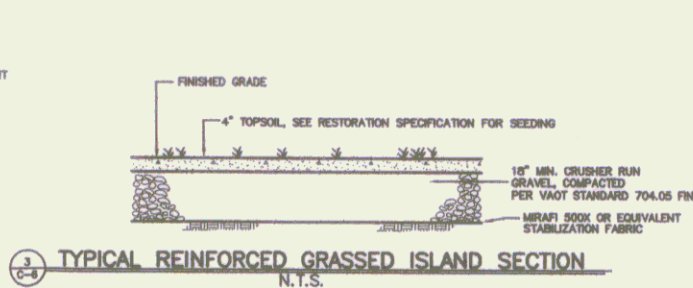
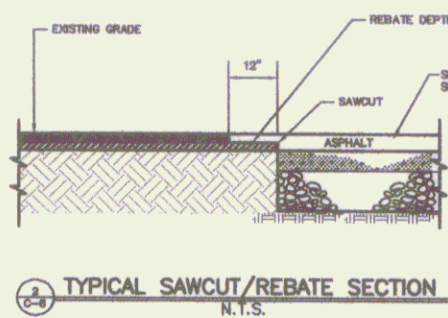
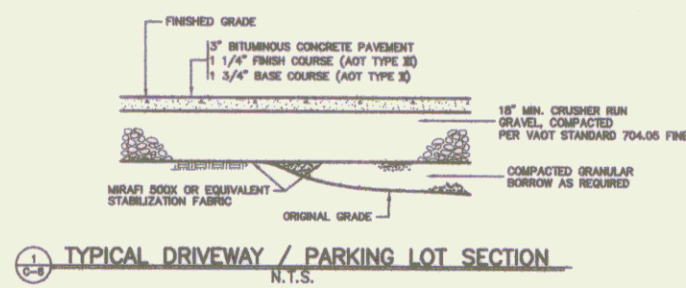
NO.	DATE	DESCRIPTION
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2	11/26/07	REV. 1/06/07
3	11/26/07	REV. 1/06/07

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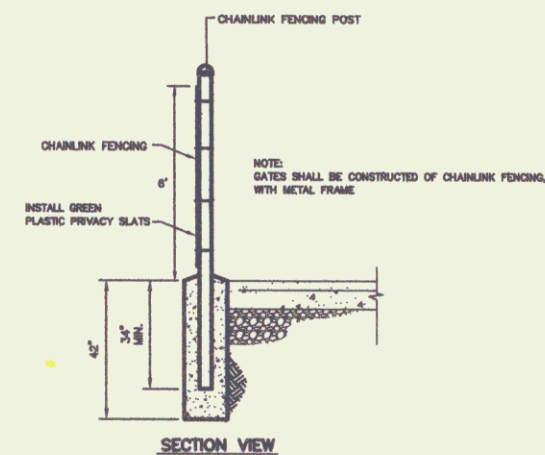
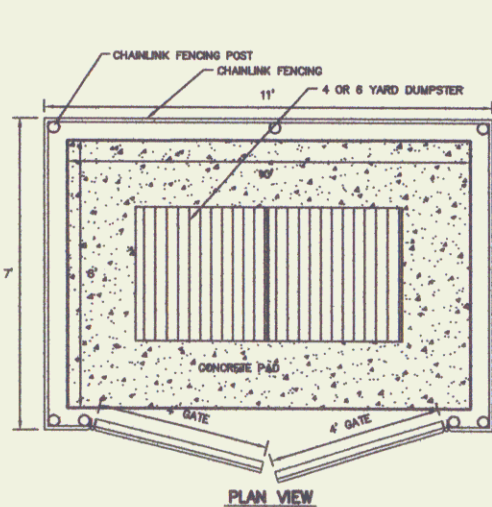
CBAY CARWASH
2 & 4 ROOSEVELT HIGHWAY
U.S. ROUTES 2 & 7
SITE PLAN
VERMONT
COLCHESTER

DRAWN: CDE
CHECKED: MEC
SCALE: 1"=20'
DATE: 11/06/07
JOB NO.: 27141
SHEET: 4

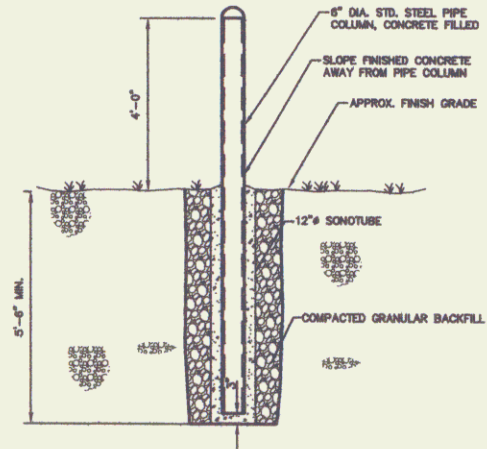


5 ONSITE CONCRETE SIDEWALK CROSS-SECTION
N.T.S.

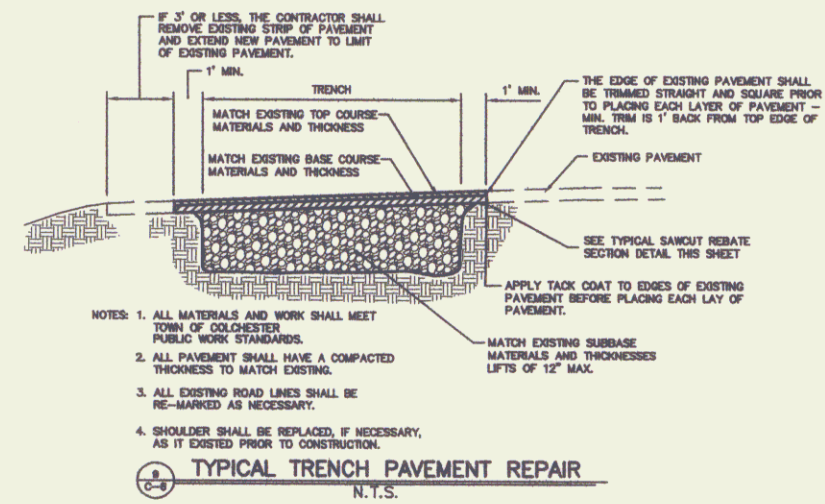
6 TYPICAL START / END CURB RETURN RADIUS
N.T.S.



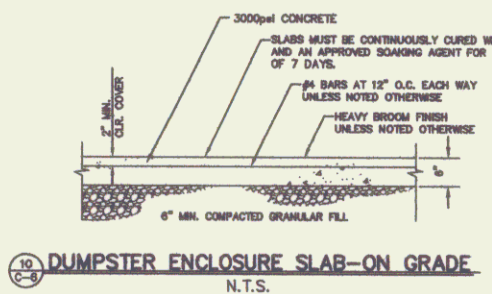
7 DUMPSTER ENCLOSURE DETAILS
N.T.S.



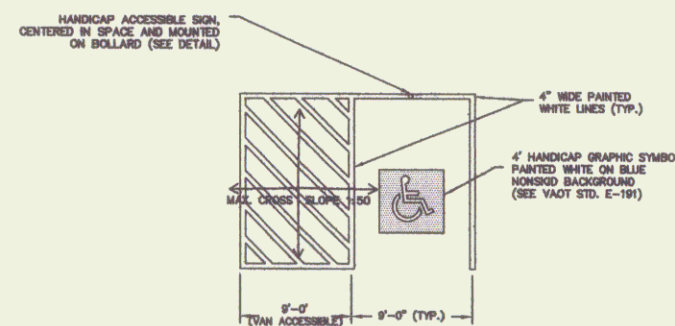
8 EXTERIOR BOLLARD
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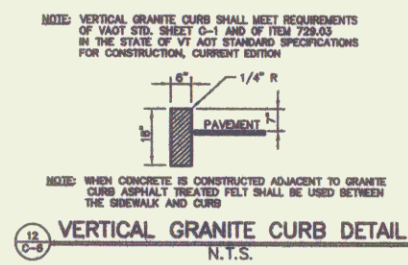
9 TYPICAL TRENCH PAVEMENT REPAIR
N.T.S.



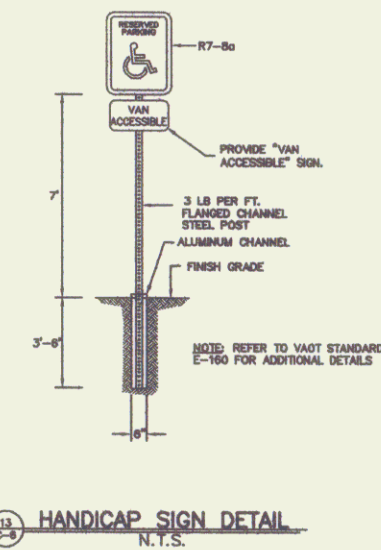
10 DUMPSTER ENCLOSURE SLAB-ON GRADE
N.T.S.



11 ACCESSIBLE SPACE PAVEMENT MARKING
N.T.S.



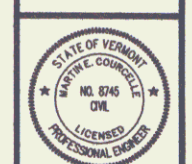
12 VERTICAL GRANITE CURB DETAIL
N.T.S.



13 HANDICAP SIGN DETAIL
N.T.S.

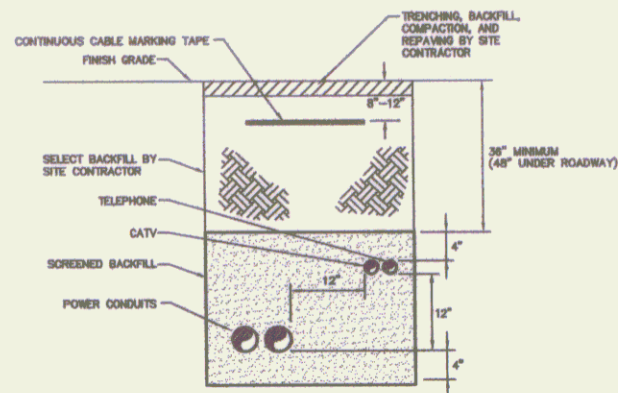
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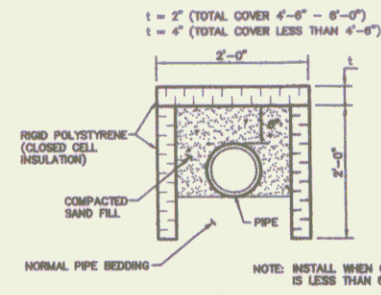
**CBAY CARWASH
 & 4 ROOSEVELT HIGHWAY
 U.S. ROUTES 2 & 7
 SITE DETAILS**
 COLCHESTER VERMONT

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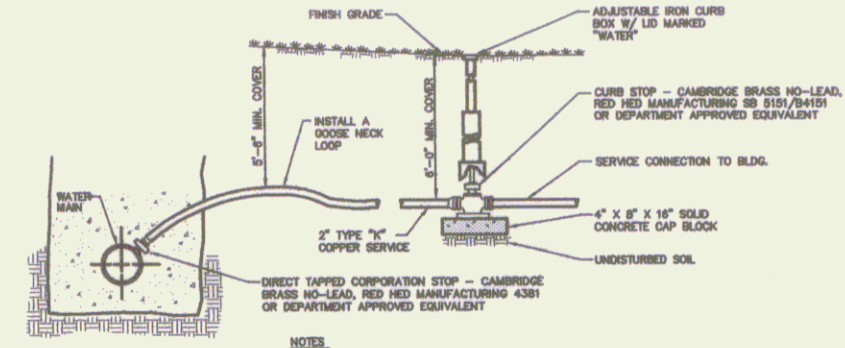


- THE GENERAL CONTRACTOR SHALL COORDINATE ALL UTILITY WORK WITH GREEN MOUNTAIN POWER FOR ELECTRICAL, VERIZON FOR TELEPHONE AND COMCAST FOR CABLE.
1. ALL EXCAVATION, CONDUIT INSTALLATION AND BACKFILL SHALL BE IN CONFORMANCE WITH GMP DISTRIBUTION STANDARDS. CONTACT THE DISTRICT SUPERINTENDENT AT 802-652-8911 TO OBTAIN COPIES OF THE LATEST STANDARDS AND TO COORDINATE INSPECTION OF WORK PERFORMED BY THE GENERAL CONTRACTOR. INSTALLATION NOT INSPECTED AND APPROVED BY GMP WILL BE EXCAVATED AND REDONE AT THE CONTRACTOR'S EXPENSE.
 2. ALL TRENCHES SHALL BE 18 INCH MINIMUM WIDTH.
 3. TRENCH CROSS SECTION SHALL BE IDENTICAL, WITH OR WITHOUT TELEPHONE OR TELEVISION CABLE.
 4. CONDUIT SHALL BE ENCASED IN A 4 INCH ENVELOPE OF CONCRETE UNDER THE FOLLOWING CONDITIONS:
 - A) FOR INSTALLATIONS UNDER THE TRAVELLED PORTION OF THE ROAD, 10 TO 15 FEET EACH SIDE OF WATER, SEWER, GAS AND DRAIN CROSSINGS.
 - B) FOR INSTALLATIONS NOT REQUIRING CONCRETE, SAND OR FINE GRAVEL SHALL BE USED TO FORM A 4 INCH CUSHION ON ALL SIDES OF THE CONDUIT.

1 UNDERGROUND ELECTRIC & TELEPHONE
N.T.S.

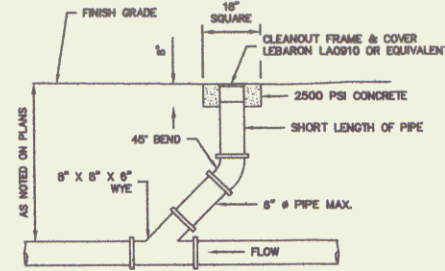


2 WATER/SEWER INSULATION DETAIL
N.T.S.

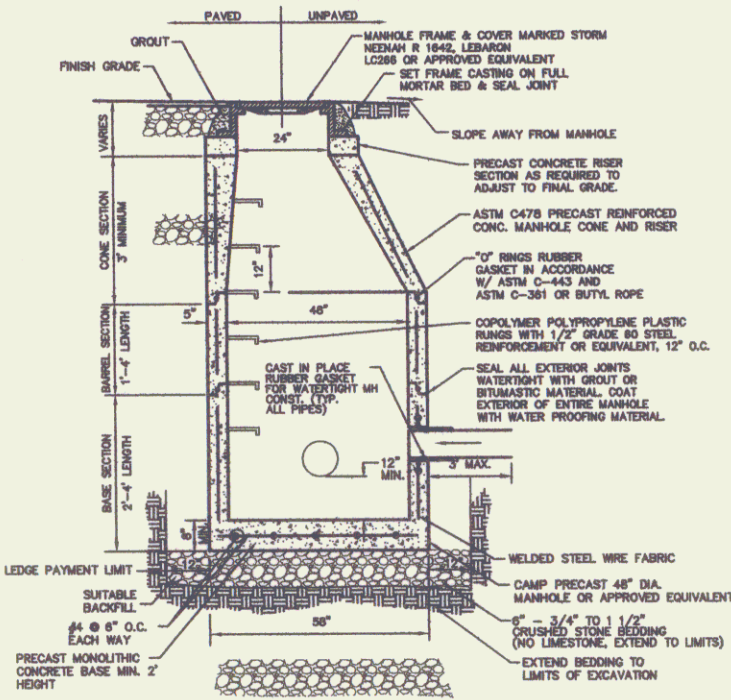


- NOTES:**
1. TIGHTEN THREAD SEALANT TAPE WILL BE USED ON ALL COPPERATION STOPS PRIOR TO INSERTION.
 2. SPECIAL BEAD COMPLETELY COVERING THE THREAD AREA WITH TWO STRAPS.
 3. PIPE JOINTS OR OTHER LIQUID THREAD SEALANTS ARE NOT ACCEPTABLE.
 4. LEAVE ONE TO THREE THREADS SHOWING OUTSIDE OF PIPE (A TORQUE OF 35 LBS OR LESS IS RECOMMENDED).
 5. COPPERATION STOPS SHALL NOT BE PLACED LESS THAN 1' APART ALONG PIPE.
 6. CURB BOXES AND STOPS SHALL NOT BE CONSTRUCTED NEARER DRIVES OR SIDEWALKS.
 7. REPRESENTATIVES OF CHAMPLAIN CONSULTING ENGINEERS AND COLCHESTER FIRE DEPARTMENT #3 SHALL BE CONTACTED 48 HOURS IN ADVANCE OF WATER SERVICE INSTALLATION AND/OR TESTING FOR CONSTRUCTION REVIEW.

3 TYPICAL WATER SERVICE DETAIL
N.T.S.

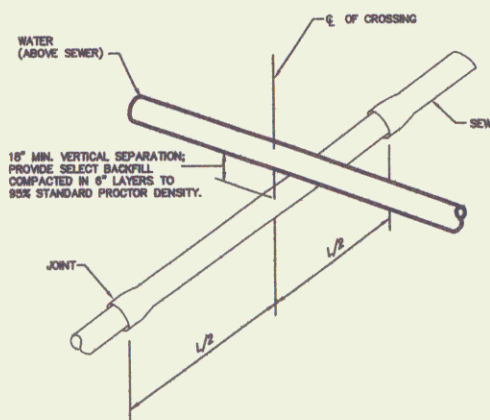


4 TYPICAL CLEANOUT DETAIL
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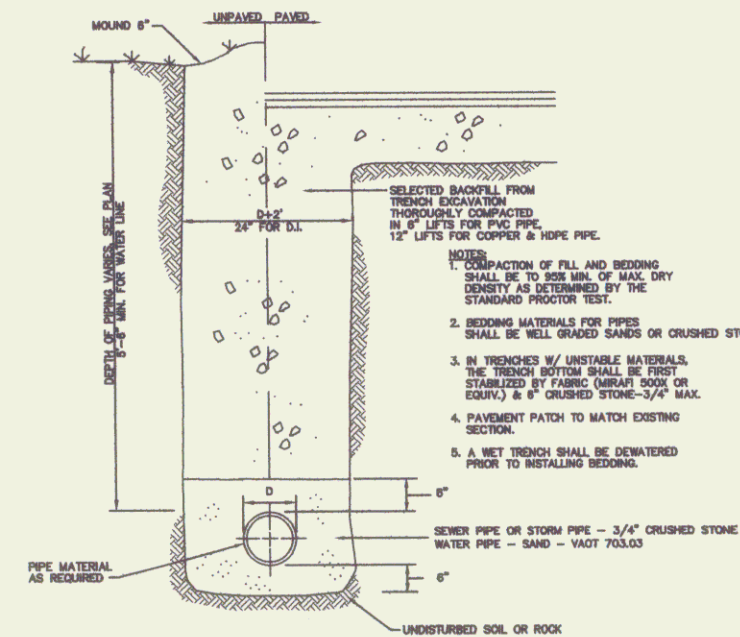
- MANHOLE NOTE:**
1. INLET & OUTLET PIPES SHALL BE JOINED TO THE MANHOLE WITH A FLEXIBLE WATER TIGHT CONNECTION OR ANY WATER TIGHT CONNECTION ARRANGEMENT THAT ALLOWS DIFFERENTIAL SETTLEMENT OF PIPE AND MANHOLE TO OCCUR.

5 TYPICAL PRECAST STORM MANHOLE
N.T.S.



- NOTES:**
1. SEWERS CROSSING WATER MAINS SHALL BE LAID BELOW THE WATER MAIN WITH AT LEAST 18 INCHES VERTICAL CLEARANCE BETWEEN THE OUTSIDE OF THE SEWER PIPE AND THE OUTSIDE OF THE WATER MAIN. THE CROSSING SHALL BE ARRANGED SO THAT THE FULL LENGTH OF SEWER PIPE IS CONTROLLED BELOW THE WATER LINE WITH SEWER JOINTS AS FAR AS POSSIBLE FROM WATER JOINTS.
 2. WHEN IT IS IMPOSSIBLE TO MAINTAIN THE 18 INCH VERTICAL SEPARATION:
 1. THE SEWER PIPE MUST BE CONSTRUCTED TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 25 FEET EITHER SIDE OF THE CROSSING OR A TOTAL OF THREE PIPE LENGTHS, WHICHEVER IS GREATER.
 2. THE SECTION CONSTRUCTED TO WATER MAIN STANDARDS SHALL BE PRESSURE TESTED TO MAINTAIN 80 PSI FOR 15 MINUTES WITHOUT LEAKAGE PRIOR TO BACKFILLING BEYOND 1 FOOT ABOVE THE PIPE TO ASSURE WATER TIGHTNESS.
 3. WHERE A WATER MAIN CROSSES UNDER A SEWER, 18\"/>

6 TYPICAL WATER/SEWER CROSSING DETAIL
N.T.S.

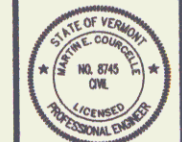


- NOTES:**
1. COMPACTION OF FILL AND BEDDING SHALL BE TO 95% MIN. OF MAX. DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST.
 2. BEDDING MATERIALS FOR PIPES SHALL BE WELL GRADED SANDS OR CRUSHED STONE.
 3. IN TRENCHES W/ UNSTABLE MATERIALS, THE TRENCH BOTTOM SHALL BE FIRST STABILIZED BY FABRIC (GIRMAI 500S OR EQUIV.) & 4\"/>
 - 4. PAVEMENT PATCH TO MATCH EXISTING SECTION.
 - 5. A WET TRENCH SHALL BE Dewatered PRIOR TO INSTALLING BEDDING.

7 TYPICAL EXCAVATION TRENCH DETAIL
N.T.S.

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2/15/08 - TOWN REVISION	MEC

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CBAY CARWASH & 4 ROOSEVELT HIGHWAY U.S. ROUTES 2 & 7 WATER & SEWER DETAILS
VERMONT COLCHESTER

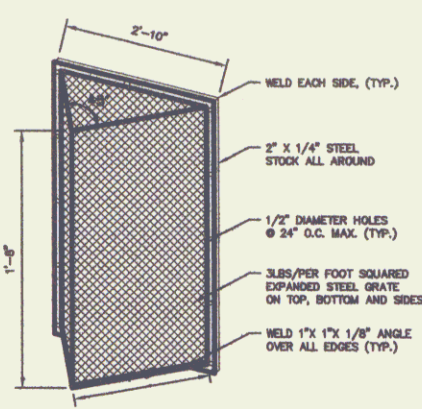
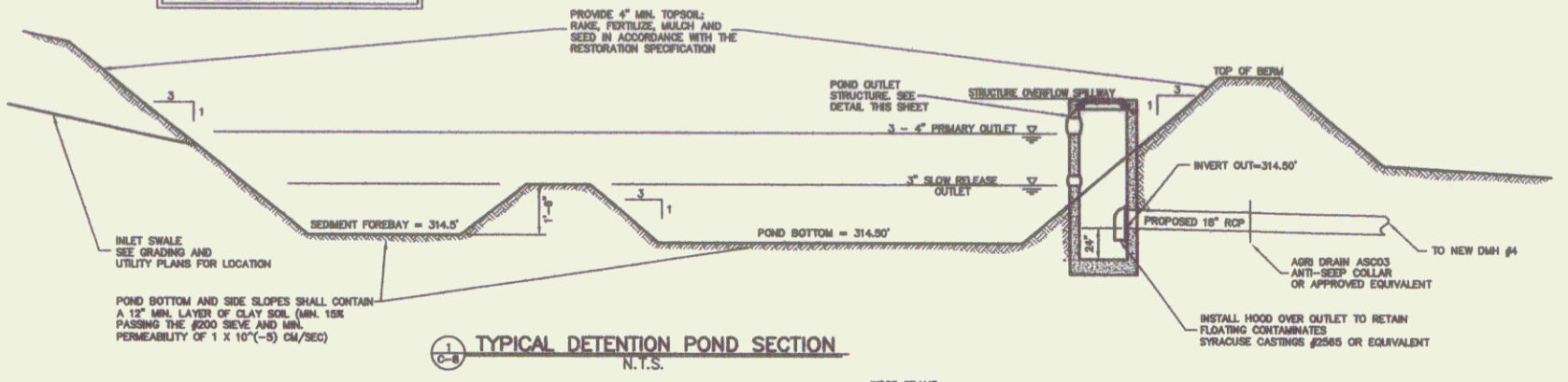
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SHEET: 7

C-7
OF 10 SHEETS

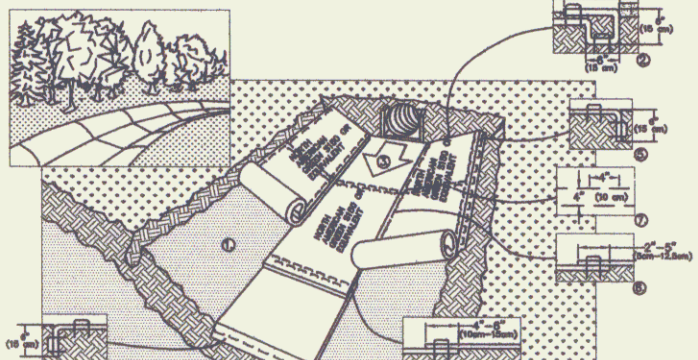
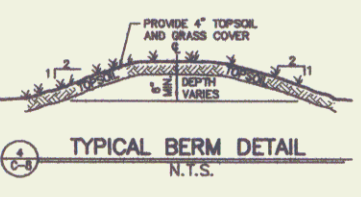
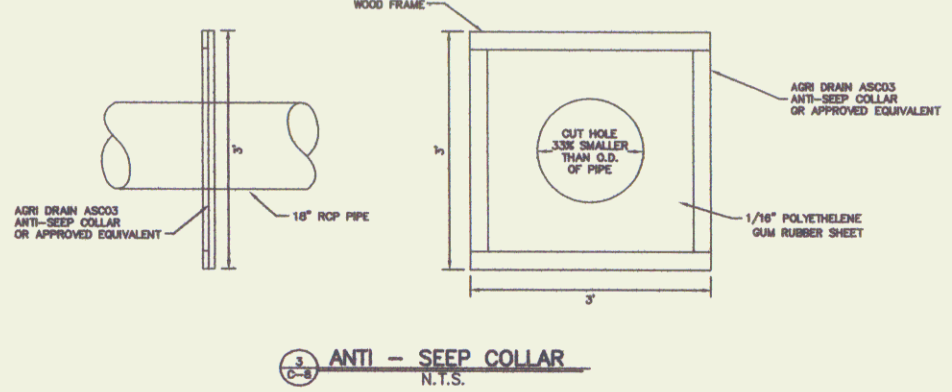
STORMWATER NOTE:
RECEIVING SHALE FOR THE STORMWATER DISCHARGE SHALL BE MONITORED MONTHLY AND AFTER EVERY MAJOR STORM EVENT DURING THE FIRST YEAR OF OPERATION TO DETERMINE WHETHER ANY EROSION HAS OCCURRED. AFTER THE FIRST YEAR THE OUTFALL SHALL BE MONITORED ONCE A YEAR. SHOULD EROSION OCCUR AT ANY POINT A REMEDIATION PLAN SHALL BE SUBMITTED TO THE TOWN. MONITORING SHALL BE PERFORMED BY THE OWNER.

STORMWATER POND DATA	
ITEM	ELEVATION
POND BOTTOM	314.50'
3" ORIFICE	316.00'
3" - 4" ORIFICE	318.20'
STRUCTURE OVERFLOW SPILLWAY	317.20'
TOP OF BERM	318.20'

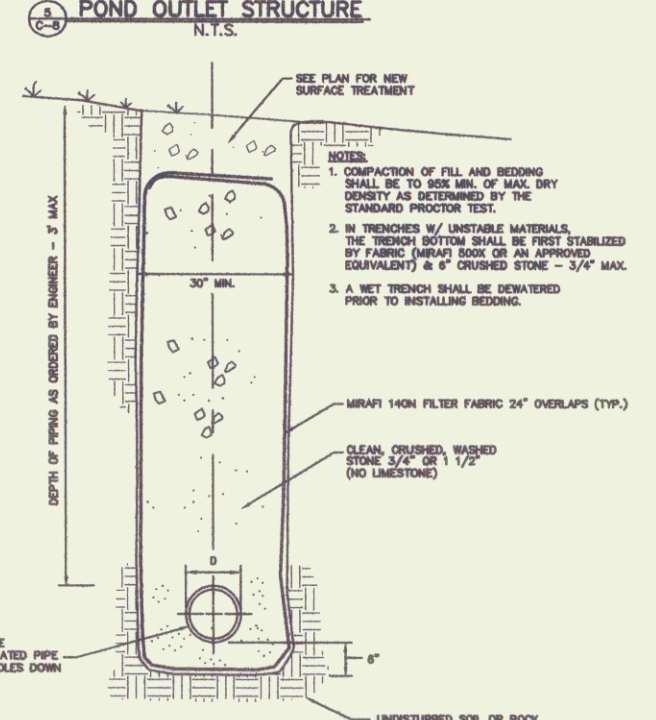
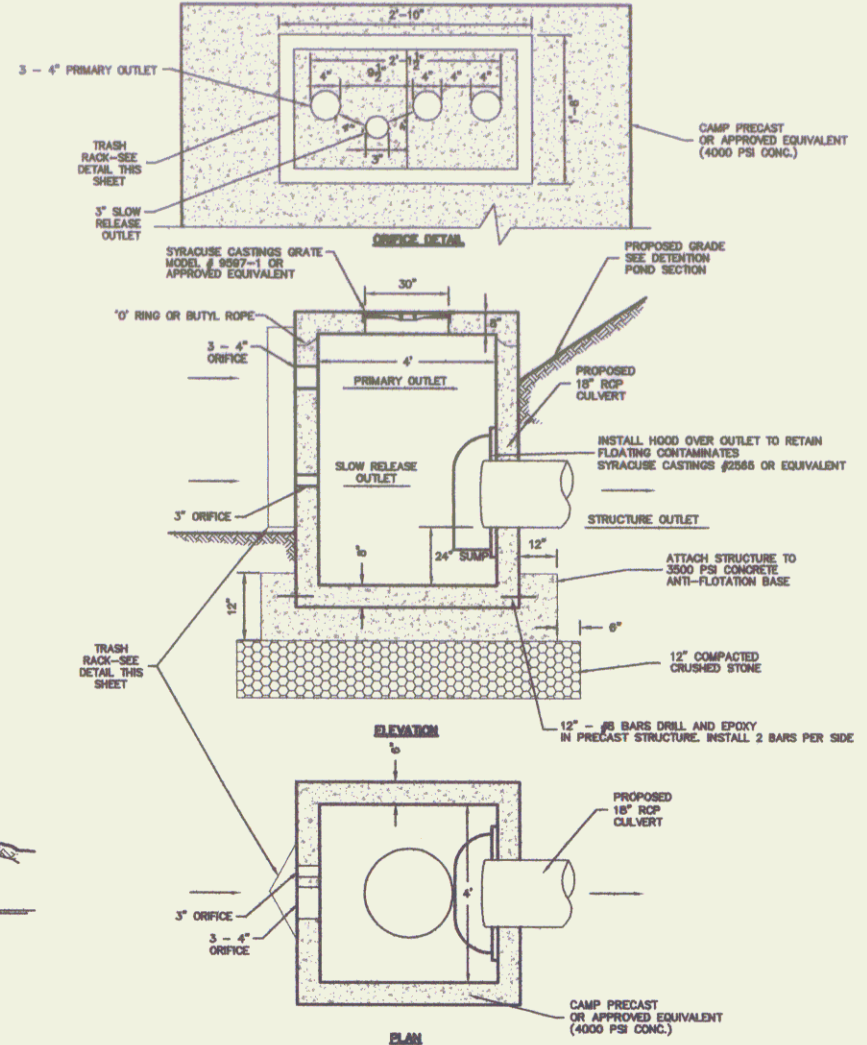
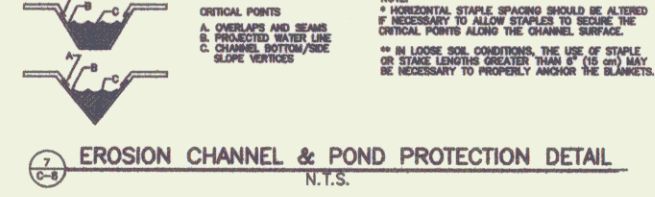
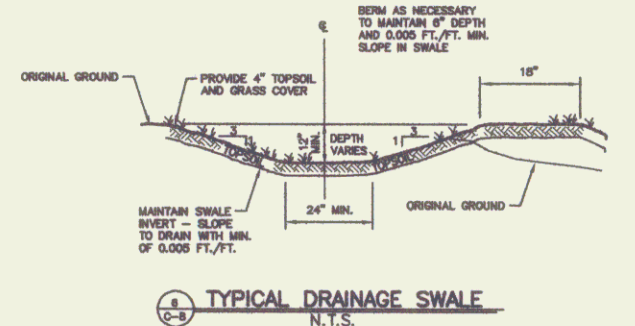
MAINTENANCE SCHEDULE:
The pond and outlet control shall be inspected annually for proper working order. Sumps and pond shall be inspected for sediment build-up. The pond should be inspected for erosion after intense rainfall. Additional erosion control measures such as rip rap should be used as necessary. The pond should be inspected for trash and debris after intense rainfall. Thoroughly inspect the outlet device for debris to ensure it will function properly.



- NOTES FOR TRASH RACK**
- TRASH RACK TO BE CENTERED OVER OPENING.
 - STEEL TO CONFORM TO ASTM A-36.
 - ALL SURFACES TO BE COATED WITH COLD GALVANIZING COMPOUND AFTER BOLLING.
 - TRASH RACK TO BE FASTENED TO THE WALL WITH 1/2" MASONRY ANCHORS. TRASH RACK TO BE REMOVABLE.

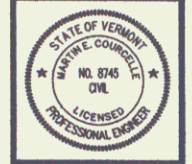


- PREPARE SOIL BEFORE INSTALLING BLANKETS INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-C-BED DO NOT USED PREPARED AREA. CELL-C-BED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- BERM AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET TO A 4\"/>



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10/29/07 - ADD/FORM	MEC
REVISION	
5/15/08 - TIME PERIOD	MEC

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CBAY CARWASH
2 & 4 ROOSEVELT HIGHWAY
U.S. ROUTES 2 & 7
STORMWATER DETAILS
COLCHESTER VERMONT

DRAWN	CCE
CHECKED	MEC
SCALE	N.T.S.
DATE	11/08/07
JOB NO.	27141
SHEET	8

GENERAL SPECIFICATIONS

The Standard Specifications shall refer to the Vermont Agency of Transportation Standard Specifications for Construction (2005 Edition). All site work shall also be completed in accordance with the Town of Colchester's Public Works Department. Any discrepancies with the plans or specifications shall be reported to the Engineer prior to beginning that work.

A. Earthwork

- The site shall be cleared of all debris and vegetation, and all topsoil shall be stripped prior to placing any fill material. Debris and vegetation shall be disposed of at an approved location.
- The excavated material from an site shall not be used within the feet (5') of the building or under parking lots, roads or sidewalks. General imported fill material shall not be larger than two inches (2") or have more than 20% passing the No. 200 sieve. All excess excavated material shall be disposed of at an approved location.

B. Grading

- Perform of rough grading, including excavation, formation of embankments, shaping, sloping, compaction, construction of drainage ditches, ditches or unusable materials, and any work necessary to prepare the subgrade of all roadways, walks and parking areas. Grading shall be brought to the bottom of the base course under paved or surfaced areas and to within a minimum of 24 inches of finished grade under side slopes and/or embankment areas to receive lean soil roadways, walks or parking areas.
- Accomplish all excavation and fill within the slope and grade lines as indicated on the Grading and Elevation Schedule in writing by the Owner. Parking lots shall be graded to full cross section with an sub-grade before placing any type of sub-base or pavement except that partial finish construction is permissible where necessary for the maintenance of traffic.
- Do not use frozen material in the material in the construction of embankment areas.
- Place all material being placed in embankments in horizontal layers of uniform thickness across the full width of embankment, except when it is impractical to construct full width of embankment and partial width layers are authorized by the Owner. Do not place or place slumps, rills, ripples or other irregularities. Each layer of embankment shall be compacted to the required depth of the embankment. Each layer of embankment of the deepest part of the fill.
- Areas of soil, yielding or otherwise unsuitable material that will not meet compaction requirements shall be removed, replaced with suitable material and properly compacted as to soil to the Owner.
- Place embankments for paved or surface areas in horizontal layers of depths which result in a core of compacted material not exceeding 8 inches. Compact (90%) near joints and fillings shall be compacted. Use vibratory spreading equipment on each layer to obtain uniform thickness prior to compacting. Each layer shall be compacted to and water to the outside edge of embankment and continuous leveling and mounding shall be required to ensure uniform density. Construction equipment shall be treated over the entire surface of each layer.
- If, during the construction of the embankment, there is any indication that surface heaving, eroding, or unsafe movement may occur, the placing of fill shall be stopped or related to allow the material to stabilize.
- All ditches and drains shall be constructed so they will effectively drain the roadway or parking lot before any sub-base or surface course material is placed. In existing roadways, take the equipment, the contractor shall protect the subgrade from damage. In no case shall vehicles be allowed to travel in a ditch and fill area. If any soil formed, the subgrade shall be reshaped and compacted and any patches of clay, sand or soft material that have been removed shall be replaced with the same material with approved material and properly compacted at the Contractor's expense. The subgrade shall be compacted to the sub-grade until the sub-grade has been graded and approved by the Owner. After the sub-grade has been approved, hauling shall not be done nor equipment moved over the sub-grade which will disturb the grade section. A tolerance of 1/2" both above or below the finished sub-grade will be allowed provided that this 1/2" both above or below sub-grade is not established for a distance longer than 50 feet, and that the required cross section is maintained.

C. Compaction

- General: Control soil compaction during construction providing minimum percentage of density specified for each material. Compaction shall be performed by the Contractor. Density shall be measured by the Contractor. Density shall be measured by the Contractor. Density shall be measured by the Contractor.
- Percentage of Maximum Density Requirement: Compaction shall not be less than the following percentages of maximum dry density for soils which exhibit a well defined moisture-density relationship in accordance with ASTM D 2922, for soils which will not exhibit a well-defined moisture-density relationship.
- Lean or ungraded coarse Compact top 6" of sub-grade and each layer of backfill or fill material to 90% maximum dry density.
- Compaction under paved and surfaced areas: The entire area of each layer shall be uniformly compacted to at least the required minimum density by any compacting equipment used. Earth-moving and other rollers, compactors or vibratory tampers shall be used. The equipment shall not be considered as compaction equipment. Each layer for full width shall be compacted to and water to the outside edge of embankment and continuous leveling and mounding shall be required to ensure uniform density. Construction equipment shall be treated over the entire surface of each layer. The field density determination will be made by a qualified testing laboratory using a nuclear density gauge.
- Concrete Slabs: Compact each layer of backfill or material to 90% maximum dry density.
- Medium Course: Where sub-grade or layer of soil material may be moisture conditioned before compaction, uniformly apply water to surface of sub-grade, or layer of soil material, to prevent the soil from drying out during compaction. Remove and replace, or rework and dry, dry soil material that is too wet to permit compaction to specified density.

D. Paved Areas Driv, Parking Lot, and Yard Area

- The sub-grade shall be prepared in accordance with Section 203.12 of the Standard Specifications.
- Base for sub-base shall meet the following grading requirements (Section 704.04):

Sub-Designation	Percentage by Weight
No. 100	20 - 30
No. 200	10 - 12

 The gravel shall be uniformly graded from coarse to fine and the maximum size stone portion shall not exceed 2/3 of the thickness of the layer being placed. The gravel sub-base shall be compacted to 95% of the maximum dry density as determined by ASTM-D 1557.
- Crushed Stone for Sub-base: All materials shall be secured from approved sources. This gravel shall consist of angular and round fragments of hard durable rock of uniform quality throughout, reasonably free from thin elongated pieces, soft or disintegrated shells, soft clays or other deleterious matter. The grading requirements shall conform to the following table (Section 704.05 - 704.06):

Sub-Designation	Percentage by Weight
No. 100	20 - 30
No. 200	10 - 12

 The material gravel shall be compacted to 95% of the maximum dry density as determined by ASTM-D 1557.
- Dense Graded Crushed Stone for Sub-base: Dense graded crushed stone for sub-base shall consist of clean, hard, uniform graded, crushed stone. It shall be reasonably free from soft, disintegrated material and pieces which are structurally weak and shall meet the following requirements (Section 704.06):

Sub-Designation	Percentage by Weight
No. 100	20 - 30
No. 200	10 - 12

 The material shall be obtained from approved sources and the area from which the material is obtained shall be drained and dewatered before loading.
- Gravelly: This material shall meet the requirements of the following table:

Sub-Designation	Percentage by Weight
No. 100	20 - 30
No. 200	10 - 12

E. Blasting Concrete Pavement

The materials, grading and compaction, placement and curing of Blasting concrete pavement (Type B, C, and F) shall meet the requirements of the Vermont Agency of Transportation Standard Specifications Sections 405, 702 and 704.04. Other requirements are as follows: Application of Blasting concrete pavement shall meet all the requirements of the Vermont Standard Specifications for Construction, Section 406, or as periodically amended, but not limited to, the following:

- Weather Limitations: Blasting concrete shall not be placed between November 1, and May 1. Blasting shall not be placed when the air temperature at the placing site in the shade and away from artificial heat is 40 degrees Fahrenheit or below.
- Compaction: Immediately after the Blasting concrete has been placed, struck off, and surface irregularities smoothed, it shall be thoroughly and uniformly compacted by rolling for 85% compaction. Compaction shall be done by a roller, and other means not acceptable to the Engineer, the mixture shall be thoroughly compacted with hot or light steel hand tampers, smoothing bars, or mechanical tampers. On approved areas, a trench roller may be used, or detailed compaction steps may be used under the roller to transmit compaction to the pavement.
- Surface Tolerances: The surface will be tested by the Engineer using a 10-foot straightedge at selected locations parallel with the centerline. Any variations shall not exceed 3/16" on both ends. Two contours shall be satisfactorily finished. A 10-foot straight-edge may be used on a vertical curve. The straightedge shall be provided by the Contractor.
- Finishing Surface: When a new pavement is to be placed on existing Blasting concrete pavement for a roadway or bridge, the Contractor shall uniformly finish the existing pavement using a straightedge a minimum of one foot (7") into the existing pavement, and the existing pavement shall be finished to the required grade. The straightedge shall be equipped with Enrolled Asphalt, RS-1, just prior to paving.
- Stabilization Fabric: Stabilization fabric when required by the Engineer will be placed 200K or equiv. The fabric shall be installed in accordance with manufacturer's requirements.
- Drainage Systems:
 - All culverts and storm drains shall meet the requirements of Section 601 of the Standard Specifications.
 - The following materials may be used for the storm drainage:
 - Polyeth Chloride pipe conforming to ASTM D3034 or (F79), (90%) near joints and fillings shall be compacted.
 - Reinforced concrete pipe meeting the requirements of Section 710.01.
 - Corrugated Polyethylene pipe meeting the requirements of Section 710.01.
 - Corrugated aluminum alloy pipe meeting the requirements of Section 710.01.

F. Concrete Sidewalk

The concrete sidewalks shall be placed to the lines and grades established in the plans in accordance with the Vermont Standard Specifications for Construction, Section C-3, Use Class C Concrete (AOT 501.03).

G. Water Supply

This project will be served by Colchester Fire District #3. The new water main shall be installed in accordance with the Vermont Standard Specifications for Construction, Section 7, during construction. If subsurface conditions warrant, the Engineer shall direct the contractor to install underground and/or cut-in drains in accordance with details B & S on sheet A-2.

H. Sanitary Sewer

This item shall consist of the excavation and backfilling required for the installation of sanitary sewer lines, manholes, vaults, and appurtenances for the collection, conveyance, and treatment of sanitary sewage. This work shall include all pipe, manholes, vaults, and appurtenances for the collection, conveyance, and treatment of sanitary sewage. This work shall include all pipe, manholes, vaults, and appurtenances for the collection, conveyance, and treatment of sanitary sewage. This work shall include all pipe, manholes, vaults, and appurtenances for the collection, conveyance, and treatment of sanitary sewage.

I. Materials

- PVC Sewer Pipe: PVC sewer pipe shall conform in all respects to the latest revision of ASTM Specifications D-3034 or F797, Type III Polyethylene Chloride (PVC) Sewer Pipe and Fittings, 2001. All pipe and fittings shall be clearly marked as follows:
 - Manufacturer's Name and Trademark
 - Material Designation 1245C PVC
 - Material Designation 1245C PVC Sewer Pipe or Fitting
 - Designation ASTM D-3034 or F797

J. Installation

- All pipe and fittings shall be inspected and tested in accordance with the manufacturer's specifications and the aforementioned ASTM Specifications. The Contractor shall furnish for approved certification from the pipe manufacturer that all tests have been performed with satisfactory results. Pipe shall not be installed without the Engineer's or Colchester Fire District #3 approval.
- Excavations shall be made at a point at least six inches (6") above trench in a ledge below the pipe invert to accommodate the bedding material. At excavations to be laid dry with pipe in ledge laid and until such joints and pipe have been inspected by the Engineer and approved given to commence backfilling operations.
- The bell end of the pipe shall face upward of all trenches and be placed in such a position as to meet the invert when the bedding material is in place. Bedding material shall be compacted to a depth of 12 inches from the bottom of the trench and shall be compacted to a depth of 12 inches from the bottom of the trench and shall be compacted to a depth of 12 inches from the bottom of the trench.
- All pipe bedding shall be rejected. If cracks occur in the pipe, the Contractor may, at his own expense and with the approval of the Engineer, cut off the cracked portion and at a point of least 12 inches from the bottom of the trench and use the second portion of the pipe. Conductivity wedges shall be installed at all joints. Three per joint (min.) All pipe and fittings shall be cleared of all foreign matter and debris prior to installation and shall be kept clean until the time of acceptance by the Owner.
- All at times, when the pipe laying is not actively in progress, the open ends of the pipe shall be closed by temporary water-tight caps or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has passed. The pipe shall be installed in trenches and at the line and grade shown on the Contract Drawings. Any deflection of joints shall be within the limits specified by the manufacturer.
- All pipe and appurtenances connected to the equipment shall be supported so that no strain will be imposed on the equipment. If the equipment manufacturer's specifications include that pipe shall not be to be transferred, the Contractor shall submit certification of compliance.
- Concrete thrust blocks shall be installed on all pipe, tees, and bends deflected 11 1/4 degrees or more. Care shall be taken to ensure that concrete will not come in contact with gaskets, joints, or bolts. The required area of thrust blocks are indicated on the plans or shall be as approved by the Engineer.
- A minimum 18 inch vertical separation between the outside pipe surface shall be maintained where sewer crosses over water services. Sewer services shall cross water services at or near right angles with one full length of water pipe centered on the sewer service on both sides and a minimum separation from the sewer service. Special structural support for the water services shall be provided in accordance with the Vermont Standard Specifications for Construction, Section 704.06.
- There shall be no physical connection between the distribution system and any pipe, pumps, hydrants, or tanks which are supplied or may be supplied with a water that is, or may be contaminated.
- All trenching safety standards shall be in accordance with all applicable State and Federal regulations and as specified on the plans.
- The Contractor shall, at all times, keep the trench entry free of water until all work is finished and ready for backfilling.

K. Valve Boxes

Valve boxes are to be installed on all buried valves. The boxes shall be cast iron with a minimum 2 1/4" diameter and long enough to extend from the valve to finished grade. The boxes shall include the opening and a minimum 2 1/4" diameter. Valve boxes shall not transfer loads into the valve.

L. Manhole Test Ties

Manhole Test Tie	Time (Seconds/100 Feet)
4	15
6	40
8	70

M. Underground Utilities

For underground electrical and telephone (cable) services, the Contractor shall trench, place bedding, place conduit, and backfill in accordance with the utility company's requirements.

N. Demolition Control

Demolition shall be performed in accordance with the Vermont Standard Specifications for Construction, Section 601, or as periodically amended, but not limited to, the following:

- The Contractor shall be responsible for verifying the location and maintaining the integrity of all utilities shown on the plan.
- The Contractor shall coordinate all construction with the Town of Colchester.
- The Contractor shall take measures to ensure no groundwater enters the existing gravity sewer system during construction. These measures shall include installing the open end of the new sanitary pipe wherever there is no other work on the pipe. Also, sanitary sewer pipe shall never be laid on a wet trench. A plug shall be installed at the connection to the existing sanitary manhole as soon as this connection is made. The plug shall only be removed at the direction of the Engineer once the sanitary line has been completed and successfully passed all required performance tests.
- Underground Utilities: For underground electrical and telephone (cable) services, the Contractor shall trench, place bedding, place conduit, and backfill in accordance with the utility company's requirements.

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

A. Section Includes: Shop Drawings, Product Data, and Samples required by the Contract Documents.

1.02 RELATED DOCUMENTS

A. The Conditions of the Contract and General Requirements of the Contract Documents apply to the General Contractor, Subcontractors, materials suppliers and all other persons furnishing labor and materials under the Contract.

1.03 SHOP DRAWINGS

A. Drawings shall be prepared in a clear and thorough manner. Details shall be identified by reference to sheet and detail numbers, or room numbers shown on Contract Drawings.

1.04 PRODUCT DATA

A. Preparation:

- Shop drawings and diagrams to detail information which is not shown on the Contract Documents.
- Approved standard information to provide information specifically applicable to the work.

1.05 SAMPLES

A. Engine samples shall be of sufficient size and quantity to clearly illustrate:

- Functional characteristics of the product, with integrity of all parts and attachment details.
- Range of colors, finishes, and patterns.

1.06 CONTRACTOR RESPONSIBILITIES

A. Review Shop Drawings, Product Data, and Samples prior to submission.

- Determine and verify:
 - Field measurements.
 - Contract Documents.
 - Existing materials and detail data.
 - Establishment with specifications.

1.07 SUBMISSION REQUIREMENTS

A. Make submittals promptly in accordance with the approved schedule, and in such sequence as to cause no delay in the Work or in the work of any other contractor.

- Number of submittals required:
 - Shop Drawings: Submit the number of copies requested which the Contractor requires, plus three copies, which will be retained by the Engineer.
 - Product Data: Submit the number of copies which the Contractor requires, plus three copies, which will be retained by the Engineer.
 - Samples: Submit the number stated in each individual specification section, or as appropriate for review and approval.

1.08 SUBMITTAL REQUIREMENTS

A. Make any corrections or changes in the submittals required by the Contract Documents and approved.

- Shop Drawings and Product Data:
 - Review field drawings and data, and re-submit as specified for the initial submittal.
 - Include any changes which have been made other than those requested by the Engineer.
- Samples: Submit new samples as required for initial submittal.

Requirements of this specification shall be considered satisfied if the time required in seconds for the pressure to decrease from 2.0 to 2.5 pounds per square inch greater than the average back pressure of any groundwater that may seep into the pipe is not less than that indicated according to the following table:

MINIMUM TEST TIME FOR VARIOUS PIPE SIZES	Time (Seconds/100 Feet)
4	15
6	40
8	70

1.09 DISTRIBUTION

A. Distribute reproductions of Shop Drawings and copies of Product Data which carry the Engineer's stamp of approval to:

- Job site file.
- Record documents file.
- Other affected contractors.
- Subcontractors.
- Supplier or Fabricator.
- Owner or Engineer.

1.10 ENGINEER DUTIES

A. Review submittals with reasonable promptness and in accord with the established project schedule.

- After review stamp and initials or signatures, and indicate requirements for resubmittal, or approval of submittal.
- Return submittals to the Contractor for distribution, or for resubmittal.

1.11 Project Record Documents

A. Materials, at the job site, one set of the Contract Drawings for recording documents and the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites, Current Edition.

- Indicate horizontal and vertical changes in location of pipes, conduits and manholes. Reference to drawings to allow as indicated on drawings.
- Record the location of buried construction and utility features revealed during the course of construction which are not shown or which are not located according to the Contract Drawings.
- Field changes of dimension and detail.

B. At completion of the project deliver the marked up set of prints to the Engineer.

C. Do not use record documents for construction purposes and maintain them in good, clean, dry, and in a legible condition.

END OF SECTION

EROSION CONTROL

1. GENERAL NOTES

A. The Contractor shall construct and maintain all erosion measures in accordance with the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites, Current Edition.

2. CONSTRUCTION SEQUENCE

A. The Contractor shall be responsible for establishing all erosion control measures indicated on the plans and any additional measures that are necessary to stabilize erosion. The Contractor shall have erosion control materials and installation equipment on site at all times.

B. Silt fences shall be installed along the base of the fill slopes. This shall remain in place until the project has been substantially completed. Silt fences shall be placed 50 feet on center to prevent soil from washing into the drainage system during construction. Check dams shall be removed after vegetation is established.

C. Dust shall be controlled through the application of calcium chloride or water.

D. Excavated material from earth excavation and ditch digging shall be disposed of off-site or used for project fill material if determined suitable by the Owner's representative.

E. All temporary erosion control measures required for any proposed winter work shall be installed prior to October 1. These measures shall be in place prior to the commencement of any site work or earth-moving.

3. TEMPORARY MEASURES

A. Stone Check Dams - Shall be installed as per detail. Check dams shall be required where erosion or sedimentation is established and the check dams are no longer needed for erosion control, they shall be removed. Sediment deposits shall be removed and placed in an approved area where there is no danger of further erosion.

B. Silt Fences - All silt fences shall be constructed in accordance with the construction detail. The fence shall generally be placed 10 feet from the toe of the slope or on the slope on the plan. The ends of the fence shall be placed up to form a horseshoe shape to trap all runoff.

C. Erosion Matting - Erosion matting shall be placed on all grass-land areas with grades exceeding 5:1 and shall be placed and maintained in accordance with the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites and 705.07.

D. Dust Control - During construction, dust will be controlled with water distributed by a back-mounted spray bar. At the direction of the Engineer, Calcium Chloride (ASTM D 144 or Sodium Chloride) may be used.

E. All slopes greater than 1:3 shall have erosion control netting installed to stabilize the slope and reduce the erosion potential. Install netting over mulched slopes so that all parts are in contact with the soil and mulch. Fix netting with wire staples 3 feet x 6 to ensure full bonding with soil surface.

4. PERMANENT MEASURES

A. Grass Land Seeding - All areas that are not stone-lined shall be seeded, seeded, fertilized and mulched. Any area which shows signs of erosion shall be seeded, seeded, fertilized and mulched.

B. Restoration - As soon as construction is completed in a given area, it shall be seeded, seeded, fertilized and mulched.

C. Seeding - The seed shall be submitted to the Extension Service for analysis. Fertilizer shall be applied at an application rate of 400 pounds per acre depending on soil analysis. If necessary, lime shall be applied to the topsoil to produce a soil pH of approximately 6.5.

D. After the finished grade has been established and the fertilizer spread, plant the specific seed mixture and work firmly into the soil. Apply seed on the prepared seed bed with approved mechanical seeders or broadcasting equipment. Upon completion of the above planting operations, roll all areas, leaving the surface of all one foot to grade, smooth, and free from lumps or other irregularities. Thoroughly water all newly planted areas immediately after planting using a fine spray. Protect beds and mounds from erosion and rapid erosion that occurs. Banks, terraces or other graded areas that have been seeded out or have become denuded shall be seeded immediately. Seeding approved by the Engineer to plant off-season, seeding will be conducted only during the period from April 15th to October 31st. Seeding shall not proceed before other phases of the work have progressed sufficiently and shall not interfere with other phases of work.

5. WATER CONSTRUCTION

A. If due to the project schedule, construction during the winter months is necessary, the contractor shall follow the winter construction procedures outlined in the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites.

B. Minimize disturbance between October and May.

C. All erosion control measures shall be in place prior to the ground freezing.

D. Match shall be applied to all disturbed area at a rate of 90 pounds per 1,000 square feet. The Contractor shall maintain all areas that are mulched until permanent vegetation can be established.

6. MAINTENANCE, DURATION AND ACCEPTANCE

A. The Contractor shall be responsible for the care and maintenance including watering of seeded areas, until the seeding is inspected and accepted by the Owner.

- Seeding shall be done until all areas are completely covered with a mixture of grass. An area shall be considered covered when the entire surface contains a uniform stand of grass. Areas that, in the opinion of the Engineer, are inadequately covered, shall be reseeded, fertilized and mulched in the seeding stand of grass.
- Watering shall be done until all areas are completely covered with a mixture of grass. An area shall be considered covered when the entire surface contains a uniform stand of grass. Areas that, in the opinion of the Engineer, are inadequately covered, shall be reseeded, fertilized and mulched in the seeding stand of grass.

B. Match and quantities of seeded area until acceptance.

REVISION DATE & DESCRIPTION	BY
12/18/07 - REV 1/006	MEC
REVISION	
5/17/08 - REV 1/006	MEC

1.10 ENGINEER DUTIES

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- Field changes of dimension and detail.

B. At completion of the project deliver the marked up set of prints to the Engineer.

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END OF SECTION

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1. GENERAL NOTES

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2. CONSTRUCTION SEQUENCE

A. The Contractor shall be responsible for establishing all erosion control measures indicated on the plans and any additional measures that are necessary to stabilize erosion. The Contractor shall have erosion control materials and installation equipment on site at all times.

B. Silt fences shall be installed along the base of the fill slopes. This shall remain in place until the project has been substantially completed. Silt fences shall be placed 50 feet on center to prevent soil from washing into the drainage system during construction. Check dams shall be removed after vegetation is established.

C. Dust shall be controlled through the application of calcium chloride or water.

D. Excavated material from earth excavation and ditch digging shall be disposed of off-site or used for project fill material if determined suitable by the Owner's representative.

E. All temporary erosion control measures required for any proposed winter work shall be installed prior to October 1. These measures shall be in place prior to the commencement of any site work or earth-moving.

3. TEMPORARY MEASURES

A. Stone Check Dams - Shall be installed as per detail. Check dams shall be required where erosion or sedimentation is established and the check dams are no longer needed for erosion control, they shall be removed. Sediment deposits shall be removed and placed in an approved area where there is no danger of further erosion.

B. Silt Fences - All silt fences shall be constructed in accordance with the construction detail. The fence shall generally be placed 10 feet from the toe of the slope or on the slope on the plan. The ends of the fence shall be placed up to form a horseshoe shape to trap all runoff.

C. Erosion Matting - Erosion matting shall be placed on all grass-land areas with grades exceeding 5:1 and shall be placed and maintained in accordance with the Vermont Handbook for Soil Erosion and Sediment Control on Construction Sites and 705.07.

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E. All slopes greater than 1:3 shall have erosion control netting installed to stabilize the slope and reduce the erosion potential. Install netting over mulched slopes so that all parts are in contact with the soil and mulch. Fix netting with wire staples 3 feet x 6 to ensure full bonding with soil surface.

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